

**BUREAU OF ENVIRONMENTAL REMEDIATION/REMEDIAL SECTION**  
**GUIDELINE**  
**SCOPE OF WORK FOR A**  
**REMEDIAL DESIGN(RD)/REMEDIAL ACTION (RA)**

**BER POLICY#BER-RS-026**

**DATE:** 1991, Updated 1996

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**GENERAL:**

All work completed under a Remedial Design/Remedial Action (RD/RA) Consent Agreement shall be consistent with § 300.435 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR 300 (final rule promulgated 3/8/90), as provided by relevant portions of §§ 101-121 of the Comprehensive Environmental Response, Compensation and Liability Act as amended by the Superfund Amendments and Reauthorization Act of 1986. All work performed pursuant to an RD/RA Consent Agreement shall also follow all pertinent EPA and KDHE RD/RA guidance. The general activities for an RD/RA that Respondent(s) are required to perform are identified by this RD/RA Scope of Work. All work performed pursuant to an RD/RA Consent Agreement shall follow the Implementation Schedule as included in the KDHE-approved Work Plan (Exhibit 1). All work performed pursuant to an RD/RA Consent Agreement shall follow all procedures and complete all activities as proposed in the final KDHE-approved RD/RA Work Plan.

The RD/RA stage includes the development of the actual design of the selected remedy and implementation of the remedy through construction. A period of operation and maintenance typically follows implementation of the remedy. Pre-design data acquisition may be necessary to obtain necessary data (pump tests, pilot tests for soil vapor extraction/air sparging, treatability studies, etc.) to facilitate the RD.

**REMEDIAL DESIGN (RD)**

**OBJECTIVES:**

The primary objectives of the **Remedial Design (RD)** are described as follows:

- 1) To collect and evaluate data generated in the pre-design planning stage. The need for this stage shall be determined by the KDHE Project Manager upon consultation with the Respondent(s).
- 2) To provide a complete engineered design of the Remedial Action to be constructed (plans and specifications) as described in the final Corrective Action Decision (CAD).

- 3) To identify and obtain easements, permits, and approvals that will be required during construction.
- 4) To identify critical technical requirements and activities where quality may be at risk.
- 5) To keep the public informed throughout the process.
- 6) To design a construction quality control program and a testing program to demonstrate that the proposed materials and equipment are acceptable.

#### RD WORK PLAN:

Respondent(s) shall submit to KDHE a Work Plan for the design of the selected remedial alternative at the Site within the time period specified in the RD/RA Consent Agreement. The Remedial Design (RD) Work Plan shall provide for design of the remedy set forth in the final CAD. A Health and Safety Plan for the field design activities which conforms to the applicable Occupational Safety and Health Administration and EPA requirements shall be included as part of the RD Work Plan. If pre-design data acquisition is required, the Pre-Design Data Acquisition Work Plan will become due according to the time period specified in the RD/RA Consent Agreement after the publication of the final CAD, and will include an implementation schedule of all pre-design activities as well as RD activities.

The RD Work Plan shall include plans and schedules for implementation of all remedial design and pre-design tasks including, but not limited to, plans and schedules for the completion of: (1) design sampling and analysis plan [including, but not limited to, a Remedial Design Quality Assurance Project Plan (RD QAPP)]; (2) treatability studies; (3) a preliminary design submittal; an intermediate design submittal; (5) a pre-final/final design submittal; and (6) a Construction Quality Assurance Plan. In addition, the Remedial Design Work Plan shall include a schedule for completion and submittal of a Remedial Action Work Plan.

#### RD IMPLEMENTATION:

Within the time period specified in the RD/RA Consent Agreement and according to the implementation schedule included in the KDHE-approved RD Work Plan, Respondents shall implement the RD Work Plan. The Respondent(s) shall submit all plans, submittals and other deliverables required under the approved RD Work Plan in accordance with the approved schedule of work.

#### RD DELIVERABLES:

The deliverables that the Respondent(s) are required to complete are outlined in the RD/RA Consent Agreement. The preliminary design submittal shall include, at a minimum, the following: (1) design criteria; (2) results of additional field sampling; (3) preliminary plans, drawings and

sketches; (4) required specifications in outline form; and (5) preliminary construction schedule with a description of proposed construction activities.

The intermediate design submittal, if required by KDHE or if independently submitted by the Respondents, shall be a continuation and expansion of the preliminary design. Any engineering proposals must be identified and evaluated during this review.

The Final Remedial Design shall include, at a minimum, the following: (1) final plans and specifications; (2) Operation and Maintenance (O&M) Plan; (3) Construction Quality Assurance Project Plan (CQAPP); (4) Field Sampling Plan; and (5) Contingency Plan. Approval of the Final Remedial Design by KDHE will initiate community relations (as described below) and the development of the Remedial Action Work Plan.

#### COMMUNITY RELATIONS:

Upon KDHE approval of the Final Remedial Design, KDHE will distribute to the community and other interested persons, a fact sheet on the final engineering design. The fact sheet must be approved by KDHE prior to distribution.

### **REMEDIAL ACTION (RA)**

#### OBJECTIVES:

The primary objectives of the **Remedial Action (RA)** are described as follows:

- 1) To identify and modify any part of the remedial system due to changed field conditions.
- 2) To construct the remedial system as designed during the RD stage or modified due to changed field conditions.
- 3) To test, verify and provide a level of confidence to the Respondent(s), KDHE and the public that the constructed remedy meets project requirements.
- 4) To construct a remedial system that is approved by KDHE after pre-final and final inspections.
- 5) To implement the approved remedial system.
- 6) To submit a RA Report.
- 7) To request a Certificate of Completion

## RA WORK PLAN:

After the approval of the Final Remedial Design submittal, Respondents shall submit to KDHE, a Remedial Action Work Plan (RA Work Plan) in accordance with the implementation schedule and as required in the RD/RA Consent Order. The RA Work Plan shall provide for construction of the remedy, as set forth in the design plans and specification in the approved final design submittal. Concurrent with the submittal of the RA Work Plan, Respondents shall submit to KDHE a revised Health and Safety Plan for field activities required by the RA Work Plan which conforms to the applicable Occupational Safety and Health Administration (OSHA) and EPA requirements.

The RA Work Plan shall include the following: (1) the schedule for completion of the Remedial Action; (2) method for selection of the contractor; (3) schedule for development and submitting other required Remedial Action plans; (4) methodology for implementation of the Construction Quality Assurance Plan; (5) a groundwater/air monitoring plan; (6) methods for satisfying permitting requirements; (7) methodology for implementation of the Operation and Maintenance Plan; (8) methodology for implementation of the Contingency Plan; (9) construction quality control plan (by constructor); (10) procedures and plans for the decontamination of equipment and the disposal of contaminated materials; (11) requirements for project closeout. The RA Work Plan also shall include a schedule for implementation of all RA tasks identified in the Final Remedial Design.

## RA IMPLEMENTATION:

Upon approval of the RA Work Plan by KDHE, Respondent(s) shall implement the activities required under the RA Work Plan according to the approved implementation schedule. The Respondent(s) shall submit all plans, submittals, or other deliverables required under the approved RA Work Plan in accordance with the approved implementation schedule. Respondent is required to submit quarterly progress reports on the operation of the RA unless the time duration between progress reports is shortened or lengthened by the KDHE Project Manager. Quarterly progress reports should also include a performance evaluation and discussion of O&M of the over the reporting period.

## RA REPORT:

A RA Report must be submitted by the Respondent(s) within 30 days of the construction and initiation of remedial activities. The RA Report certifies that all items contained in the RD/RA work plans have been completed. The report will also include: 1) a summary of cleanup standards specified for this project; 2) estimated schedule of completion; 3) monitoring schedule; 4) report schedule; 5) project summary; 6) emergency contingency; 7) a description of routine daily activities and 8) as-built drawings stamped by a professional engineer.

## CERTIFICATION OF COMPLETION OF THE RA:

Within 90 days after the Respondent(s) conclude that the RA has been fully implemented and completed, the Respondent(s) shall certify such completion to KDHE. A pre-certification inspection should be scheduled by Respondent(s) to be attended by KDHE and Respondent(s). If, after the pre-certification inspection, the Respondent(s) still believe that the RA has been fully performed, they shall submit a written report to KDHE for approval according to the approved implementation schedule. In the report, a registered professional engineer and the Respondent(s) Project Coordinator shall certify that the approved remedial action and remedial action goals have been completed in full satisfaction of the requirements of the RD/RA Consent Agreement. The written report shall include final as-built/modified drawings signed and stamped by a professional engineer. The report shall contain the following statement, signed by a responsible corporate official of the Respondent(s) or the Respondent(s) Project Coordinator:

"I certify that the information contained in or accompanying this submission is true, accurate and complete."

If, after completion of the pre-certification inspection and receipt and review of the written report, KDHE determines that the RA has not been completed in accordance with the RD/RA Consent Agreement and remedial goals have not been achieved, KDHE will notify the Respondent(s) in writing of the activities that must be undertaken to complete the RA. KDHE will set forth in notice a schedule for performance of such activities consistent with the RD/RA Consent Agreement or require the Respondent(s) to submit a revised schedule to KDHE for approval. The Respondent(s) shall perform all activities described in the notice in accordance with the specifications and schedules as approved by KDHE, subject to the right of Respondent(s) to invoke the dispute resolution procedures set forth in the RD/RA Consent Agreement.

If KDHE concludes, based on the initial or any subsequent Certification of Completion by Respondent(s) and that the RA has been fully performed in accordance with the RD/RA Consent Agreement, KDHE will so certify in writing to the Respondent(s). This certification shall constitute the Certification of Completion of the Remedial Action for purposes of the RD/RA Consent Agreement.